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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,199	01/04/2002	Jen-inn Chyi	JLINP081	2021
25920	7590	06/25/2004	EXAMINER	
MARTINE & PENILLA, LLP 710 LAKEWAY DRIVE SUITE 170 SUNNYVALE, CA 94085			LOUIE, WAI SING	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/039,199

Applicant(s)

CHYI, JEN-INN

Examiner

Wai-Sing Louie

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 11,21,22,24,25,27-40,42,43 and 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11,21,22,24,25,27-40,42,43 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 11 is objected to because of the following informalities:

- In claim 11, line 10, "the buffer layer" has no proper antecedent basis.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11, 21-22, 24-25, 27-37, 40, 42-43, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida (US 6,255,004).

With regard to claim 11, Yoshida discloses a method for the production of an III-V nitride semiconductor device (col. 3, line 65 to col. Col. 15, line 44 and fig. 3), comprising the steps of:

- Providing a substrate 4 (fig. 3);
- Supplying an organic metal gas B (col. 6, lines 61-67 and fig. 3);

- Supplying a nitride gas C to react with layers formerly formed by the organic metal gas B (fig. 1),
  - Where the organic metal gas B and the nitride gas C are supplied into a MOCVD chamber A3 separately (fig. 3),
  - Where the substrate 4 is sapphire (col. 4, line 13 and fig. 1),
  - Where the buffer layer is composed of GaN (col. 4, line 17) and a thickness is 3 nm (col. 4, line 21),
  - Where the compound semiconductors 3 are GaN (col. 5, line 37).

With regard to claims 21-22, 27-34, 36, and 42-43, Yoshida discloses the metals are Al, B, Ga, In, and their alloys such as AlGa<sub>N</sub>, Ga<sub>N</sub>, InGa<sub>N</sub>, and AlInGa<sub>N</sub> (col. 1, lines 30-33).

With regard to claims 24, 37, and 45, Yoshida discloses the method is adapted to a CVD system (fig. 3).

With regard to claims 25 and 40, in addition to the limitations disclosed in claim 11, Yoshida also discloses:

- The semiconductor compounds are AlGa<sub>N</sub>, Ga<sub>N</sub>, InGa<sub>N</sub>, and AlInGa<sub>N</sub> (col. 1, lines 30-33).

With regard to claim 35, Yoshida discloses the layer consists As and its alloy GaAs (col. 5, line 16).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Initially, and with respect to claim double, note that a “product by process” claim is direct to the product *per se*, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which makes it clear that it is the final product *per se* which must be determined in a “product by process” claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. As stated in Thorpe,

even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

**Note that applicant has burden of proof in such cases** as the above case law makes clear.

Claims 38-39 are rejected under 35 U.S.C. § 102(e) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Yoshida (US 6,255,004).

With regard to claims 38-39, Yoshida disclose a light emitting semiconductor device includes a substrate, the buffer layer disposed on the substrate, an light emitting semiconductor

layer, and electrodes. The buffer layer is manufactured by the method claimed in claim 11 and/or claim 25.

As to the grounds of rejection under section 103(a), the light-emitting device includes a substrate, the buffer layer disposed on the substrate, an light emitting semiconductor layer, and electrodes. See MPEP § 2113 which discusses the handling of ‘product by process’ claims and recommends the alternative (§ 102/§ 103) grounds of rejection.

### ***Response to Arguments***

Applicant's arguments with respect to claims 11, 21-22, 24-25, 27-40, 42-43, and 45 have been considered but are moot in view of the new ground(s) of rejection in view of newly cited reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wsl

May 26, 2004.

LONG PHAM  
PRIMARY EXAMINER